

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

MISCELLANEOUS NEW NORTH AMERICAN CENTIPEDS OF
THE ORDER LITHOBIIDA

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The new genera and species of Lithobiid centipeds described in the present paper were noted in the course of examination of several miscellaneous lots of chilopods in the collection of the senior author where all types are for the present deposited.

Family LITHOBIIDAE

Genus **CALCIBIUS**, new genus

In general agreeing with *Oabius*, like which it has the tarsi undivided in all but the posterior legs. Articles of antennae 20 and prosternal teeth 2 + 2. None of the dorsal plates produced. Separated from *Oabius* because of the presence (in the male only ?) of a low swelling or lobe on the mesal side of the distal end of the fourth joint of the anal legs, this lobe bearing an especially large mesally directed spine or spur.

Genotype.—*Calcibius calcarifer* new species.

Calcibius calcarifer new species

General color pale yellow throughout.

Antennae short; articles 20. Ocelli in two short series, thus, 2,2.

Prosternal teeth small, pale, 2 + 2.

Ventral spines of the anal legs, 0,1,3,3,0; dorsal spines, 1,0,2,0,0; in addition, at least in the male, a much larger and characteristic spine borne at distal end of the fourth joint, the spine extending mesad and curving somewhat proximad. Dorsal spines of the penult legs 1,0,2,1,1.

Length, 6.2 mm.

Locality.—Washington: Ellensburg.

Type.—One male taken Aug. 29, 1929, by R. V. Chamberlin.

Enarthrobium oblitus new species

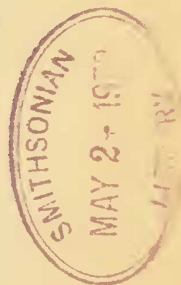
Dorsum light brown, the caudal border of principal tergites darker. Legs dull yellow. Head and prehensors more or less orange in color.

Antennae of moderate length, the articles mostly 26 in number. Ocelli small and pale. Typically in three longitudinal series; e.g., 1 + 5,5,5.

Prosternal teeth 2 + 2.

Posterior angles of ninth, eleventh and thirteenth dorsal plates produced.

Dorsal spines of anal legs, 1,0,3,1,0; ventral spines, 0,1,3(4),2,1; the claw single. Dorsal spines of penult legs, 1,0,3,1,1; central spines, 0,1,3,3,1½ one small accessory claw present. Dorsal spines of the



thirteenth legs, 1,0,3,1,1; ventral, 0,1,3,3,2. None of the coxae laterally armed. Ventral spines of first legs, 0,0,2,3,2.

Coxal pores slightly elliptic; 5,6(5),6,5.

In the male the fourth joint of the anal legs bears at its distal end above a small but distinct lobe.

The claw of the genital forceps of the female tripartite; the basal spines 2 + 2, these long and subcylindric to the short, acute tip.

Length, 18 mm.

Locality.—California: Claremont.

Type.—Three males and two females.

In lacking lateral spines on the posterior coxae and in most other respects close to *E. bullifer* Chamb., occurring in South Carolina. Separated from that species on the basis of differences in the spining of the legs, the new species having the ventral spines of the anal legs 0,1,3,(4),2,1 instead of 0,1,3,2,0 and the ventral spines of the first legs 0,0,2,3,2 instead of 0,0,1,3,1.

Nadabius pluto new species

Dorsum light chestnut, head and prehensors darker. Legs yellowish. Antennae of moderate length, composed of 20 articles which decrease in length distad to the penult article, the ultimate article being long as usual. Ocelli in three series; e.g., 1 + 4,4,3, with the single ocellus much the largest.

Prosternal teeth, 2 + 2.

Ventral spines of first and second legs, 0,0,1,3,2; dorsal spines, 0,0,1,2,1. Dorsal spines of twelfth and thirteenth legs, 1,0,3,1,0. Dorsal spines of penult legs 1,0,3,1,1; ventral spines, 0,1,3,3,2; the claw armed. Dorsal spines of anal legs, 1,0,3,1,0; ventral spines, 0,1,3,3,1; the claw single. Last two pairs of coxae laterally armed.

Anal legs of the male with tarsus bearing a typical keel at distal end above.

Claw of female genital forceps tridentate; the basal spines 2 + 2, these rather short and broad.

Length, 9-10 mm.

Locality.—Montana: Hell Gate River.

Type.—Several males and females taken Aug. 13, 1929, by R. V. and Edith S. Chamberlin.

Closely related to *N. mesechinus* Chamb. of Oregon, but differing in having the ventral spines of the anal legs 0,1,3,3,1 instead of 0,1,3,2,0 as well as in the spining of the first two pairs of legs.

Nadabius vaquens new species

Dorsum light brown, the venter and legs paler as usual.

Antennae short, composed of 20 articles.

Prosternal teeth 2 + 2, small; the margin running obliquely from the outer tooth on each side in a laterocaudal direction.

None of the dorsal plates produced.

Ventral spines of the anal legs 0,1,3,2,0; dorsal, 1,0,3,0,0; claw single. Ventral spines of penult legs, 0,1,3,3,1; dorsal spines, 1,0,3,1,0; claw armed. None of the coxae laterally armed.

In the anal legs of the male the fourth and fifth articles are swollen; the dorsal keel at the distal end of joint 4 rather long but low.

Length, 9 mm.

Locality.—Wyoming: Yellowstone Park at Mt. Washburn.

Type.—One male taken Aug. 13, 1940.

***Paitobius (Tunabius) zygethus* new species**

Dorsum light brown, venter and legs paler.

Antennae composed of 27-28 articles. Ocelli distinct, arranged in three or four longitudinal series.

Prosternal teeth 2 + 2, the line of their apices straight.

Posterior angles of the eleventh and thirteenth plates produced but only slightly so.

Ventral spines of anal legs 0,1,3,2,0; dorsal, 1,0,3,1,0; claw single.

Ventral spines of penult legs, 0,1,3,3,2; dorsal spines 1,0,3,1,1; claws 2. Last three pairs of coxae laterally armed.

Claw of female genital forceps tripartite; basal spines 2 + 2, broad, widest toward the dark colored, dentate apex.

Length, 13 mm.

Locality.—California: no more definite locality recorded. Female holotype and one male.

In form of basal spines of the female gonopods resembling *Taiyubius* rather than typical *Paitobius* but differing from the known species of the former genus in not having the posterior corners of the ninth tergite at all produced. It differs from the previously known species of *Paitobius*, subgenus *Tunabius*, in having the anal claw single and in having the ventral spines of the penult legs 0,1,3,3,2.

***Pokabius (Pokabius) iosemiteus* new species**

General color yellow, the legs paler.

Antennae short. Ocelli in a principal series of 5 or 8 above which one or two much larger ocelli.

Prosternal teeth pale, small, 2 + 2.

None of the dorsal plates with posterior angles produced.

Dorsal spines of anal legs in the male, 1,0,1,1,0, in the female, 1,0,2(3),1,0; ventral spines, 0,1,3,2,0. Dorsal spines of penult legs, 1,0,3,1,1; ventral spines, 0,1,3,3,1. Posterior coxae not laterally armed.

The fourth joint of the anal legs in the male especially crassate, the dorsal process at its proximal end in the form of an exceptionally long, horn-like process which curves mesoproximad above its base, its end flattened, with margin rounded and setose.

Claw of the female gonopods tridentate, the teeth not pronounced. Basal spines 2 + 2.

Length, 8-9.5 mm.

Locality.—California: Yosemite National Park.

Type.—One male and one female.

Probably nearest to *P. disantus* Chamb., occurring in Los Angeles and adjacent counties, but widely different in the prolonged process of the fourth article of the anal legs in the male.

Genus *PLANOBIUS*, new genus

Apparently closely related to *Nampabius*, but a much larger form than species of that genus, differing in having the posterior coxae spines both laterally and dorsally and in the stronger spining of anal and penult legs. These legs similarly bear two claws. The male is similar to *Nampabius* in bearing a characteristic process at the distal end of the

fifth article of the penult legs, but the process arises well down on the side of the joint rather than dorsally.

Generotype.—*Planobius aletes* new species.

***Planobius aletes* new species**

The articles of antennae 20 in number. Ocelli few, pale.

Prosternal teeth 2 + 2.

Posterior angles of none of the dorsal plates produced.

Ventral spines of anal legs 0,1,3,3,1; dorsal, 1,0,3,1,0; claws 2. Ventral spines of penult legs (in the male), 0,1,3,2,0; dorsal, 1,0,3,1,1; claws 2. Last two pairs of coxae armed laterally as well as dorsally.

Penult legs of the male with first joints conspicuously inflated but the last two joints abruptly thinner, the fourth joint thickest. The process of the fifth article located at the distal end midway down the side and projecting alongside of base of the sixth article, the process widening a little clavately distad and truncate at the end.

Length, about 13 mm.

Locality.—Not recorded.

Type.—One male.

***Sigibius siopius* new species**

Brown to chestnut, with posterior end of body lighter and the corresponding legs pale yellow.

Articles of antennae typically near 25. Ocelli very few, mostly two or three in a single series.

Prosternal teeth normal.

Differing from the related American species in having the claw of the anal legs single. Ventral spines of anal legs 0,1,1,1,0; dorsal, 0,0,1,1,0; claws 2, the accessory claw small and fine. Dorsal spines of thirteenth legs, 0,0,1,0,0; ventral, 0,1,1,1,1.

Claw of genital forceps short and proportionately broad, bidentate, the teeth short. Basal spines 2 + 2.

Length, 6 mm.

Locality.—Utah: Provo (May 22, 1942) and Salt Lake Valley along the Jordan River (May 11, 1946).

Type.—Many specimens of both sexes.

***Simobius opibius* new species**

Readily distinguished from *S. ginampus*, the generotype, in having the prosternal teeth 4 + 4 instead of 2 + 2, as well as in having the ventral spines of the penult legs 0,1,3,3,1, instead of 0,1,3,3,2, with two claws instead of three, and apparently also in having the ventral spines of the anal legs 0,1,3,3,0, but the spine on the fifth joint may possibly have been lost from the type.

The anal and penult legs in the male are crassate, the anal legs otherwise unmodified; the dorsal eminence at distal end of fifth joint of the penult legs low and broad, shaped much like the typical keel in the anal legs of *Nadabius*, thus contrasting with the sub-cylindrical process on *ginampus*.

Length,—10 mm.

Locality.—California: Muir Woods.

Type.—Two males and an immature female taken Sept. 5, 1927.

Sozibius mullanua new species

General color yellow, with head, antennae and prehensors darker.

Ocelli large, few in number, being typically 2,2 or 1 + 1,2.

Third joint of first pairs of legs having but 2 dorsal spines. Ventral spines of anal legs 0,1,3,2,0; dorsal, 1,0,3,1,0; claw single. Ventral spines of penult legs 0,1,3,3,1; dorsal, 0,0,3,1,0. None of coxae laterally armed.

Length, 11 mm.

Locality.—Idaho: Mullan.

Type.—One male taken Aug. 17, 1929, by R. V. and E. S. Chamberlin.

This is the first record of *Sozibius* from west of Arkansas. The present species is distinguishable from *S. pennsylvanicus*, apparently the most clearly related to it of the known forms, in lacking a lateral spine on the posterior coxae, in having the ventral spines of the anal legs 0,1,3,2,0 instead of 0,1,3,3,2, and the ventral spines of the first legs 0,0,1,1,1 instead of 0,0,2,2,1.

Sonibius scepticus new species

Articles of the antennae 20, these of moderate length. Ocelli in four series; e.g., 1 + 5,4,4,3.

Prosternal teeth 4 + 4, the one at mesal end on each side reduced in size.

Posterior angles of ninth, eleventh and thirteenth dorsal plates produced, the process of thirteenth distinct, those of ninth and eleventh weak.

Anal legs with ventral spines 0,1,3,2,0, a minus accessory claw; dorsal spines, 1,0,3,1,0. Ventral spines of penult legs 0,1,3,3,1; dorsal, 1,0,3,1,1.

Claw of the female genital forceps tridentate, the lobes blunt. Basal spines 2 + 2, proportionately short and broad.

Length, 14 mm.

Locality.—New York: Wilmington Notch.

Type.—One female taken Aug. 26, 1921.

This is a larger form than species previously referred to this genus and differs in having the prosternal teeth 4 + 4 instead of 2 + 2 or 3 + 3 and in the notably weaker development of the processes on the ninth, eleventh and thirteenth dorsal plates, especially on the first two of these.

Zinapolys (Pygmobius) uticola new subgenus and species

General color yellowish, a brighter, more orange, color at anterior and posterior ends, inclusive of head. Legs and antennae pale yellow.

Antennae short, composed normally of 20 articles but in the type specimen there are but 15 on one side. Ocelli few, arranged in two series, 4 + 2, with no single ocellus distinctly set off.

Prosternal teeth 4 + 4.

Posterior angles of ninth, eleventh and thirteenth dorsal plates produced.

Ventral spines of anal legs 0,1,3,3,1; dorsal spines, 0,1,3,1,0; claw single. Ventral spines of penult legs, 0,1,3,1,0; dorsal spines 0,0,3,1,0; claw unarmed. Last two pairs of coxae armed laterally and the last pair also ventrally.

Length, 6 mm.

Locality.—Utah: Daniel's Canyon.

Type.—One male taken by S. Mulaik on Oct. 15, 1939.

Placed in a separate subgenus primarily on the basis of the presence of processes on ninth, eleventh and thirteenth dorsal plates. It is a much smaller species than the known members of *Zinapolys* sens. str.

Family GOSIBIIDAE

Gosibius (Abatobius) auxodontus new species

Dorsum brown or somewhat chestnut. Most legs paler but the posterior pairs light chestnut.

Antennae composed of 20 long articles. Ocelli with single ocellus enlarged, the others in four series; e.g., 1 + 5,4,3,2.

Prosternal teeth distinctive among the species of the genus as now known in their larger number, being 4 + 4; the outermost tooth on each side separated by a wider space or diastema than the intervals between the other teeth.

Posterior angles of none of the dorsal plates produced.

Ventral spines of first legs, 0,0,1,1,1. Ventral spines of the penult legs 0,1,3,2,1; dorsal, 0,0,3,2,1; claw armed. Ventral spines of anal legs 0,1,3,2,1; dorsal, 1,0,3,1,0; claw single. None of the coxae laterally armed.

The claw of the genital forceps long, acute and strictly entire. Basal spines 2 + 2, long and acuminate. First article enlarged, excavated on mesal side at base as usual.

Length, 15 mm.

Locality.—Uncertain, but probably Utah or an adjacent area.

Apparently an aberrant member of *Gosibius* among the species of which it is distinct especially in the larger number of prosternal teeth and the lesser number of antennal articles.

Gosibius (Gosibius) submarginis new species

The type, which is probably not in full color, is pale yellowish throughout.

Articles of antennae 23. Ocelli small; 1 + 4,3,3.

Prosternal teeth small, 3 + 3; the ectal spine slender but stouter than the ordinary setae, well removed from the ectal tooth on each side.

Posterior angles of ninth, eleventh and thirteenth tergites produced, the processes of the ninth plate broad and short, those of eleventh more produced and those of the thirteenth well developed.

Dorsal spines of anal legs 1,0,3,2,0; ventral, 0,1,3,3,1; the claw single. Ventral spines of the penult legs 0,1,3,3,2; dorsal spines 1,0,3,2,2; claws three.

In the male the fourth and fifth joints of both the anal and the penult legs are conspicuously crassate leaving the two last joints abruptly thinner.

Length, 15 mm.

Locality.—Washington, between Seattle and Everett.

Type.—One male, taken in August.

Related to *G. brevicornis*, but the male differing in having the special setose eminence on the fifth article of the penult legs much reduced and located farther distad. The fourth and fifth articles more conspicuously swollen.

Genus **SHOSOBIOUS**, new genus

A genus of the Gosibiidae most closely related to *Abatobius* but differing in having the prosternal teeth 5 + 5 instead of 2 + 2, in having the articles of the antennae fixed at 20, and in the presence of the prominent lobe from the first article of the female gonopods.

Generotype.—*Shosobius cordialis* new species.

Shosobius cordialis new species

Articles of the antennae twenty in number, these of moderate length.

Head without distinct marginal interruptions. Ocelli few, typically in three series, the single ocellus large and those of the upper two rows larger than those of the bottom row; 1 + 1, 2m4.

Prosternal teeth 5 + 5, the dental lines of the two sides meeting at the middle in an obtuse angle; ectal spine setiform, inserted adjacent to the tooth on each side.

Posterior angles of none of the dorsal plates produced.

Coxal pores transverse, 6,7,7,6.

Coxa of anal legs armed laterally and dorsally. Dorsal spines of twelfth legs, 0,0,3,2,2; ventral, 0,1,3,3,2. (Legs 13 to 15 missing from type specimen).

Claw of female genital forceps entire, broad. Basal article of gonopod produced mesodistad into a conspicuous lobe bearing, in the type, but a single, proportionately broad, spine but a second spine may have been lost; this article excavated and sclerotized on mesal side at base.

Length 13 mm.

Locality.—Idaho: Cour de Elaine.

Type.—One female taken Sept. 4, 1949, Wallace; and a female and immature male taken Sept. 3, 1949, by S. Mulaik.

Family **ETHOPOLIDAE**

Zygethopolys pugetensis tiganus new variety

Set apart from typical *pugetensis* in having the claw of the female gonopods distinctly tripartite, with the mesal tooth much smaller than the median instead of being subequal to it and also in having the basal spines of the gonopods 3 + 3 instead of 2 + 2. The prosternum agrees with that of the species in having but one tooth (in one case 2 on one side) ectad of the diastema. The teeth mesad of the diastema on each side 5 or 6 in number.

Length, 18 mm.

Locality.—British Columbia: Vancouver.

Type.—One male and one female taken April 4, 1933, by H. Leech.